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EXAMINER

DANIEL JR, WILLIE J

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Art Unit: 2617

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 15 September 2008. **Claims 22-38** are now pending in the present application and **claims 1-22** are canceled. This office action is made **Non-Final**.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 September 2008 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-27 and 29-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Salmela et al. (hereinafter Salmela) (**WO 98/30056**) in view of **Nordstrand** (**US 6,334,052**

B1) and **Seppanen et al.** (hereinafter Seppanen) (**US 5,903,832**).

Regarding **claims 22, 29-30, 34, and 37-38**, Salmela discloses a method for deciding whether a mobile station used by a subscriber is allowed to camp in a cell of a mobile communications system comprising cells, and location areas each associated with a respective Location Area Code (LAC) and defining a group of cells so that each cell of the mobile communications system belongs to a location area, wherein within each location area, the mobile station may move without updating its location, the mobile communications system further comprising localized service areas each associated with a respective Localized Service Area identification (LSA-ID), wherein the localized service areas may overlap and be discontinuous so that a cell may belong to one or more localized service areas or to none of the localized service areas, and a localized service area may comprise cells belonging to different location areas so that when the mobile station is moving within the localized service area a location update may be triggered because the location area changes (see abstract; pg. 1, lines 4-6; pg. 8, lines 17-25; pg. 4, lines 9-12; pg. 14, lines 22-25; Figs. 1), where the system provides restricting connection of a mobile station (MS) to a cell, the method comprising:

defining some of the location areas (LAs) to be localized service areas (LSAs - LSA1-3) which reads on the claimed "exclusive location areas" each associated with a respective LAC (e.g., LAI), an exclusive location area (LSA1) comprising special cells (C1-C3, C5, C11) which reads on the claimed "exclusive cells" for which a special service which reads on the claimed "exclusive service" condition is defined (see pg. 4, lines 1-12; pg. 5, lines 14-18; pg. 7, lines 26-28; pg. 8, lines 6-12; Figs. 1-2);

Art Unit: 2617

broadcasting an LAC of a cell and, if the cell belongs to at least one localized service area, broadcasting an LSA-ID of each localized service area to which the cell belongs (see pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 13, line 31 - pg. 14, line 5);

receiving, via the cell, a request for location update which initiates a location update procedure for updating the subscriber's location to a new location area and includes a LAC for the new location area to which the subscriber would like to update (i.e., location area identifier/index - LAI) (see pg. 2, lines 9-17; pg. 2, line 35 - pg. 3, line 2; pg. 4, lines 23-24; pg. 4, line 31 - pg. 5, line 9; pg. 8, lines 13-16; pg. 9, lines 19-23; pg. 10, lines 25-29; pg. 11, lines 19-23; pg. 14, lines 21-25; Figs. 2-5 "message 21");

checking during the location update procedure whether the new location area (i.e., location area identifier/index - LAI) indicated by the LAC (e.g., location area identifier - LAI) is defined as an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 6-9; pg. 6, lines 12-19; pg. 8, lines 17-25; pg. 11, lines 23-26; pg. 12, lines 10-19; pg. 14, lines 26-31; pg. 15, lines 14-24); and

if the new location area (i.e., location area identifier - LAI) is an exclusive location area (LSAs - LSA1-3) (see pg. 12, line 28 - pg. 13, line 5; pg. 14, lines 28-31; pg. 15, lines 14-24),

using the exclusive service condition of the cell (C1-C3, C5, C11) in determining whether or not the subscriber is allowed to camp (i.e., connect) in the cell (see pg. 14, lines 14-18; pg. 14, line 28 - pg. 15, line 3; pg. 15, lines 14-24; pg. 8, lines 6-12; Fig. 1-2),

Art Unit: 2617

allowing the mobile station (MS) to camp (i.e., connect) in the cell by accepting the location update if the subscriber is allowed to camp (i.e., connect) in the cell (see pg. 13, lines 1-5; pg. 14, lines 14-18; pg. 14, line 35 - pg. 15, line 1; pg. 15, lines 14-24), and

preventing (i.e., restricting) the mobile station (MS) from camping (i.e., connecting) in the cell by rejecting the location update if the subscriber is not allowed to camp (i.e., connect) in the cell (see pg. 13, lines 1-5; pg. 5, lines 14-18, 21-35; pg. 15, lines 1-34).

Salmela inexplicitly discloses having the feature(s) if the new location area is not an exclusive location area: checking whether or not the subscriber has localized service information which comprises at least one localized service area identification (LSA-ID) with information about the subscriber's access rights outside the LSA-IDs; if the subscriber has the localized service information, using it to determine whether or not the subscriber is allowed to camp in the cell; and if the subscriber has no localized service information, allowing the subscriber to camp in the cell; if a suitable cell is not found, entering a limited service state.

However, the examiner maintains that the feature(s) if the new location area is not an exclusive location area: checking whether or not the subscriber has localized service information which comprises at least one localized service area identification (LSA-ID) with information about the subscriber's access rights outside the LSA-IDs; if the subscriber has the localized service information, using it to determine whether or not the subscriber is allowed to camp in the cell; and if the subscriber has no localized service information, allowing the subscriber to camp in the cell was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the feature(s) if the new location area is not an exclusive location area: checking whether or not the subscriber has localized

Art Unit: 2617

service information which comprises at least one localized service area identification (LSA-ID) with information about the subscriber's access rights outside the LSA-IDs (see abstract; col. 4, lines 6-9, 32-50; col. 6, lines 1-20, 28-45);

if the subscriber has the localized service information, using it to determine whether or not the subscriber is allowed to camp in the cell (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17); and

if the subscriber has no localized service information, allowing the subscriber to camp in the cell (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the feature(s) if the new location area is not an exclusive location area: checking whether or not the subscriber has localized service information which comprises at least one localized service area identification (LSA-ID) with information about the subscriber's access rights outside the LSA-IDs; if the subscriber has the localized service information, using it to determine whether or not the subscriber is allowed to camp in the cell; and if the subscriber has no localized service information, allowing the subscriber to camp in the cell, in order , as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, entering a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, entering a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, entering a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, entering a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claim 23**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 22), in addition Salmela further discloses a method according to claim 22, the method further comprising maintaining information about location areas (e.g., LAI) that are defined as exclusive location areas (LSAs - LSA1-3) in a network element (e.g., database) configured to reject or accept location updates (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 14, line 26 - pg. 15, line 4; pg. 15, line 34 - pg. 16, line 1; pg. 8, lines 17-25; pg. 15, lines 14-24).

Regarding **claim 24**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 23), in addition Salmela further discloses a method according to claim 23, the method further comprising:

maintaining cell (C1-C3, C5, C11) information indicating whether a cell (C1-C3, C5, C11) is an exclusive cell (C1-C3, C5, C11) (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 8, lines 6-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14,

Art Unit: 2617

lines 28-35; pg.15, lines 26-33; pg. 8, lines 6-12; Figs. 1-2), where the mobile station operates in location service areas (LSAs - LSA1-3) ; and

using said cell information to define whether the new location area is an exclusive location area (LSAs - LSA1-3) (see pg. 8, lines 6-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg.13, lines 18-26; pg. 14, lines 28-35; pg. 15, lines 26-33; Figs. 1-2).

Regarding **claim 25**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 22), in addition Salmela further discloses a method according to claim 22, the method further comprising:

receiving an indication (e.g., message 32) indicating whether the cell is an exclusive (i.e., special) cell during location update (see pg. 8, lines 20-30; pg. 9, lines 26-30; pg. 11, lines 11-18, 23-35; Figs. 3A-B and 4B), where message 32 transmitted from the intelligent network to the visitor location register; and

deciding on the basis of the indication whether the location area of the cell is an exclusive location area (see pg. 5, lines 19-27; pg. pg. 12, line 20 - pg. 13, line 5; pg. 14, line 22 - pg. 15, line 33; Figs. 1 and 5).

Regarding **claim 26**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 22), in addition Salmela further discloses a method according to claim 22, wherein

the exclusive cells (C1-C3, C5, C11) are exclusive access cells belonging to one or more localized service areas (see pg. 4, lines 1-15; pg. 5, lines 18-27; pg. 8, lines 6-9; pg. 14, line 14 - pg. 15, line 33), where only certain subscribers can connect to those cells; and

Art Unit: 2617

if the new location area is an exclusive are, whether or not the subscriber is allowed to camp (e.g., connect) in the cell is determined by checking whether or not the subscriber has the localized service area (LSAs - LSA1-3) information of the cell and if the to the subscriber's local service area (LSAs - LSA1-3) information (see pg. 4, line 1-22; pg. 5, lines 14-27; pg. 14, line 21 - pg. 15, line 33) and

if the subscriber has the localized service area information comparing the LSA-IDs of the subscriber to camp (i.e., connect) of the cell and allowing the subscriber to camp in the cell only if there is a match, and if the subscriber does not have the localized information the subscriber is not allowed to camp in the cell (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 7, lines 26-28; pg. 14, line 21 - pg. 15, line 33).

Regarding **claim 27**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 22), in addition Salmela further discloses a method according to claim 22, further comprising:

defining location areas (LAI) so that when an exclusive access cell (e.g., C1) belongs to a location area (LAI), the other cells (e.g., C2 and C3) in that location area (LAI) are also exclusive cells (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 8, lines 25-30; pg. 12, line 20 - pg. 13, line 5; pg. 14, line 26 - pg. 15, line 3; pg. 8, lines 17-25; pg. 15, lines 14-24; Fig. 1);

maintaining information about location areas (LAI) comprising exclusive cells (C1-C3, C5, C11) (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 8, lines 14-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, lines 28-35; pg. 15, lines 26-33; Fig. 1); and

Art Unit: 2617

using that information to decide whether the location area of the cell is an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 19-27; pg. 8, lines 14-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, line 22 - pg. 15, line 33).

Regarding **claim 31**, Salmela discloses a system according to claim 30, wherein the network is configured to further broadcast an indication (EA) (e.g., message) that the cell is an exclusive cell when the cell belongs to an exclusive location area (LSAs - LSA1-3) (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 6, lines 7-20; pg. 12, line 29 - pg. 13, line 5; pg. 13, line 31 - pg. 14, line 5; pg. 8, lines 17-25; pg. 15, lines 14-24). Salmela does not specifically disclose having the features the mobile station is configured, in response to receiving a new LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp and if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the features the mobile station is arranged, in response to receiving a new location area identity LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the features the mobile station is configured, in response to receiving a new LAC (e.g., cell-related information) and said indication EA (e.g., message), to determine whether the mobile station is allowed to camp in the cell (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col.

Art Unit: 2617

7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), and

if it is allowed, to send a location update request to the network (see abstract; col. 4, lines 6-12, 32-50; col. 5, lines 1-20, 28-59; col. 6, lines 1-20, 28-45; Figs. 4-5), or

if it is not allowed, to try to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the features the mobile station is configured, in response to receiving a new LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, to enter a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, to enter a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Art Unit: 2617

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, to enter a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claim 32**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 22), in addition Salmela further discloses a network according to claim 12, wherein the network (i.e., system) comprises local service areas (LSAs - LSA1-3) each indicated by a Local Service Area identification (LSA-ID) (e.g., LSAs - LSA1-3) defining local services for subscribers via cells or a cell defined as belonging to a local service area LSA (LSAs - LSA1-3) (see pg. 4, lines 1-12; pg. 7, lines 26-28; Fig. 1), and

the network is further configured to receive information (e.g., LAI) on the local service area LSA (LSAs - LSA1-3) of the cell and to determine whether the subscriber is allowed to camp (i.e., connect) in the cell by checking whether or not the subscriber has the local service area (LSA-ID) (e.g., LSAs - LSA1-3) information of the cell to the subscriber's local service area (LSAs - LSA1-3) information (LSA-ID) and if the subscriber has the localized area information the network is further configured to compare the LSA-IDs of the cell with the subscriber's LSA_ID and to allow the subscriber to camp in the cell only if there is a match, and if the subscriber does not have the localized service information, the network is further configured to determine that the subscriber is not allowed to camp in the cell (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 14, line 21 - pg. 15, line 33).

Art Unit: 2617

Regarding **claim 33**, the claim as applied to claim 30 are rejected for the same reasons as set forth above in **claim 22**.

Regarding **claim 35**, the claim as applied to claim 30 are rejected for the same reasons as set forth above in **claim 22**.

Regarding **claim 36**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed, as applied above (see claim 34), in addition Salmela further discloses a network element according to claim 34, wherein the information about location areas defined as exclusive location areas (LSAs - LSA1-3) comprises location areas (LSAs - LSA1-3) having at least one cell which is in the area of the network element (e.g., database) (see pg. 5, lines 19-27; pg. 15, lines 14-25), where location areas are in the vicinity of the HLR or VLR.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Salmela et al.** (hereinafter Salmela) (**WO 98/30056**) in view of **Nordstrand (US 6,334,052 B1)** and **Seppanen et al.** (hereinafter Seppanen) (**US 5,903,832**) as applied to claim 22 above, and further in view of **Rune (US 6,212,390 B1)**.

Regarding **claim 28**, the combination of Salmela, Nordstrand, and Seppanen discloses every limitation claimed as applied above. The combination of Salmela, Nordstrand, and Seppanen does not specifically disclose having the feature(s) rejecting the location update with the cause "roaming not allowed in this location area". However, the examiner maintains that the feature(s) rejecting the location update with the cause "roaming not allowed in this location area" was well known in the art, as taught by Rune.

Art Unit: 2617

In the same field of endeavor, Rune discloses the feature(s) rejecting the location update with the cause “roaming not allowed in this location area” (see col. 8, line 1-4; Fig. 5 ‘ref. 580’).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, Seppanen, and Rune to have the feature(s) rejecting the location update with the cause “roaming not allowed in this location area”, for the purpose of allowing a restricted area to be defined in real-time and/or relative to the subscriber’s terminal at the time of attempted access, as taught by Rune (see col. 4, lines 47-50).

Response to Arguments

4. Applicant's arguments with respect to claims 22-38 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new claims.

In response to applicant’s arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

Art Unit: 2617

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIE J. DANIEL JR whose telephone number is (571)272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,Jr/

WJD,Jr
08 December 2008

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617